

SESSION TOPIC: INDUSTRIAL DEVELOPMENT AND SUSTAINABLE RESOURCE MANAGEMENT

- Approaching sustainable development through building design practices
- Greater energy efficiency of building stock
- More environmentally benign building design

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1) Cost-shared Technical Assistance Can Make the Difference

Case Study | NYSERDA shared the cost of technical consultants to provide energy modeling and materials' analysis of projects including Kensington Branch Library, Bronx Criminal Court Complex, New York Hall of Science, Queens Botanical Garden, Riker's Island and the Administration for Children's Services Intake Center. DDC then decided they wanted to institutionalize green building practices, so they embarked on development of the *High Performance Building Guidelines*. NYSERDA again provided cost-share technical assistance for this project. As a result, sustainable design practices have become standard practice at DDC. DDC has used the experience they have gained to assist New York City government agencies become "greener." For example, DDC is consulting with the NYC Department of Buildings to incorporate green design practices into the NYC Building Code. DDC, along with NYSERDA, was also instrumental in the development of local law 86, the so-called LEED law, requiring certain publicly funded projects to become LEED certified. Also, DDC recently released High Performance Infrastructure Guidelines, a companion to High Performance Building Guidelines.
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Lessons learned | **A modest investment in technical assistance can reap significant economic and environmental benefits for years to come. Mandatory or "system-wide" changes in the approach to designing buildings "green" allows the benefits to be continually reaped.**

Obstacle Confronted | In 1997, the New York City Department of Design and Construction (NYC DDC) had expressed an interest in incorporating sustainable design practices into their portfolio but lacked the technical resources to do so.

Next steps | Overcoming the "Cookie Cutter" approach to new building design is an on-going battle that DDC will continue to help other City agencies fight. DDC will keep publicizing its success stories to demonstrate that sustainable design can be done well and cost-effectively in NYC.

2) Information Can Overcome a Significant Market Barrier to Sustainable Development

Case Study | The Port Authority of New York and New Jersey (PA) and Lower Manhattan Development Corporation (LMDC) were assigned the task of overseeing the sustainable rebuilding of the World Trade Center (WTC). The organizations hired external advisors to develop Sustainable Design Guidelines for World Trade Center Redevelopment Projects. PA and LMDC staff worked with experienced green building consultants from the private and public sectors (NYSERDA, which provided technical assistance as well as funding for the WTC Sustainable Design Guidelines Reference Manual), thus acquiring knowledge to ensure the WTC will be "green." The resulting guidelines address the entire site, including public and private buildings, transportation, infrastructure, way finding and public spaces. The first building erected on the site, 7 WTC, achieved a LEED Gold rating from the US Green Building Council.
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Lessons learned	Sharing information and experience can help overcome resistance to new ways of thinking and working. Respect for the opinions of those who are being asked to change their thought processes is essential to success.
Obstacle Confronted	Lack of understanding on how to design the World Trade Center in a sustainable and cost-effective manner; inexperience of developer and state and local government agencies with sustainable design.
Next steps	Continue to work with the involved parties to update the WTC Sustainable Design Guidelines. Hire "Implementation Authorities" to determine whether designers are complying with the guidelines. Expand knowledge base of LMDC and WTC management and staff so that lessons learned can be applied elsewhere in lower Manhattan and throughout the PA.

3) Partnership for Combined Heat & Power

Case Study	<p>The U.S. Environmental Protection Agency's Combined Heat & Power (CHP) Partnership is a voluntary program designed to foster cost-effective CHP projects in the United States. Through the cogeneration of electricity and thermal energy from a single fuel source, CHP increases overall efficiency. CHP is a clean, reliable approach typically requiring only $\frac{3}{4}$ of the primary energy that separate heat and power systems use. Launched in October 2001, the goal of the Partnership is to reduce the environmental impact of power generation by building cooperative relationships with the CHP industry, state and local governments, and other stakeholders to expand the use of CHP. The Partnership also offers strategic market development in emerging sectors and policy assistance to states to foster the uptake of CHP. Through 2004, CHP Partners installed 2,273 Megawatts of CHP with Partnership assistance, resulting in greenhouse gas emissions reductions that are equivalent to planting more than 2.4 million acres of trees.</p> <p><i>May 3-5 Point of contact on U.S. delegation: Verena Radulovic (703-605-0760)</i></p>
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Lessons learned	Rate design and interconnection are key issues that must be addressed. Utilities must also be educated about the business case for investing in on-site generation as a strategy to diversify assets, improve grid reliability, and improve customer relations.
Obstacle Confronted	Overcoming the regulatory, technical and informational barriers to the use of combined heat and power for industrial applications, particularly with respect to utility rate design and interconnections for CHP systems to the electrical grid.
Next steps	Basic lessons learned about technology options, costs, and steps to project development are widely transferable and scalable and the partnership is ongoing.